Development and use of Failure Codes

What is a failure code?
Failure Codes are a method of coding CMMS work orders to enable the most probable cause of an equipment failure or problem to be easily identified and reported.

A failure code should illustrate why an asset failed.

In occasions. failures codes have been coded numerically, or limited to a few characters. Codes should be extended, to fully utilise character spaces available. This will ensure that codes are more easily recognizable thereby reducing the need to always refer to the long description of the code to determine what it is. Recognizable codes will simplify the task for those assigning failure codes to work requests. The CMMS installed and used on companies should incorporate the failure codes as part of the work flow for a corrective Work Order.

Where are failure codes used?
Failure codes will be entered into the work request screen, within CMMS (MAXIMO, SAP, ETC), for all asset or equipment failures. Codes should normally be entered in the first instance by the person (operator) reporting the problem at the time of the failure or by the technician when closing the work request. The codes can be modified before the work order is closed out if the investigation enables the failure mechanism to be more precisely identified.

Why use failure codes?
The use of equipment failure codes allows for the **easy retrieval of statistics about equipment failures or breakdowns** utilising various reporting functions available within the CMMS. A review of these reports should enable Reliability Engineers to easily identify problem areas therefore prompting actions that lead to reducing the number and/or severity of equipment failures.
The codes themselves may not provide a definitive explanation of the failure or its cause(s), but acts as a pointer to issues which may require further more detailed investigation.

Should failure codes become a mandatory field?
Failure codes should not be a mandatory field within the work order screen. A review of work orders created highlighted a large number are not necessarily related to equipment failure.

Regular reviews should be conducted to ensure that failure codes are entered into work orders as required and appropriate. Once this practice is firmly entrenched within the maintenance culture the frequency of reviews can then be extended.
When reviewing the use of failure codes consideration should be given to:

- Work requests reporting failure with no failure codes assigned.
- Number of occurrences when failure code "other" is assigned.
- Failure codes that are used frequently.
- Failure codes that are used very rarely.
- A review may identify improvements to failure codes listed and result in adding or removing failure codes from data base.

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The benefits of one global organization list of codes for companies with more than one site, are:

- Allows for real comparison of failure data between sites.
- Identify specific failure types common to all sites and allow for collective approach to identifying actions to eliminate root cause.
- Identify failure type's specific to sites and allow for details of practices from other sites to be shared and implemented, as appropriate, to eliminate root cause.
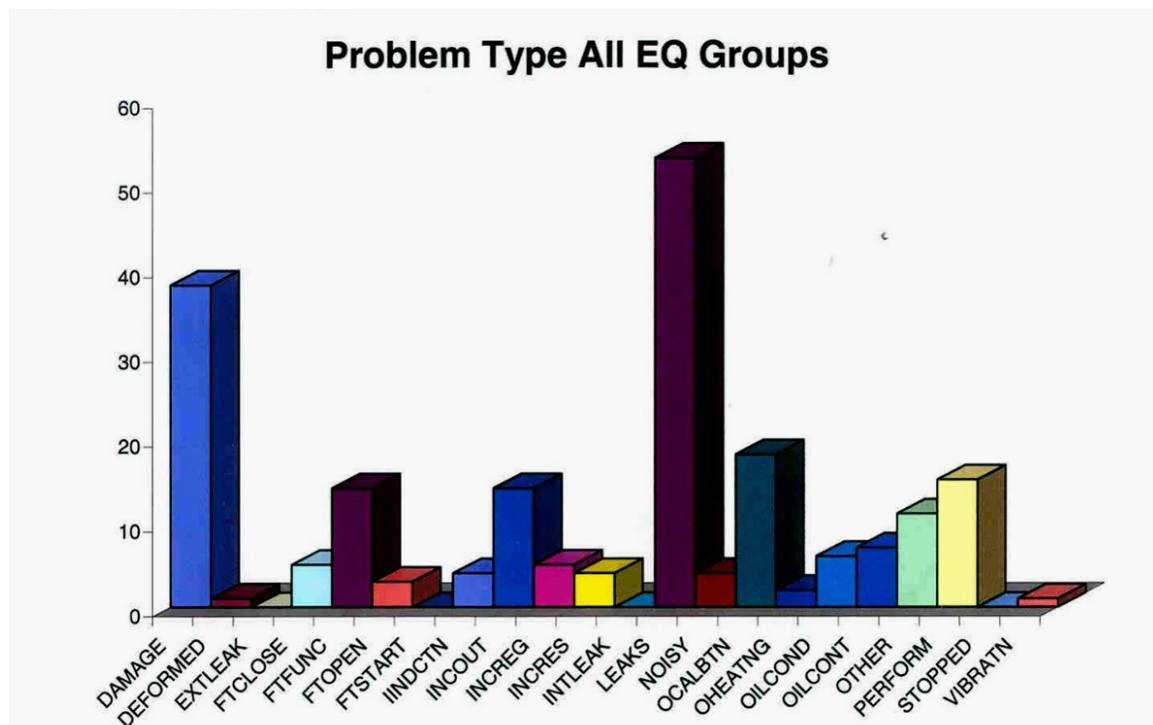
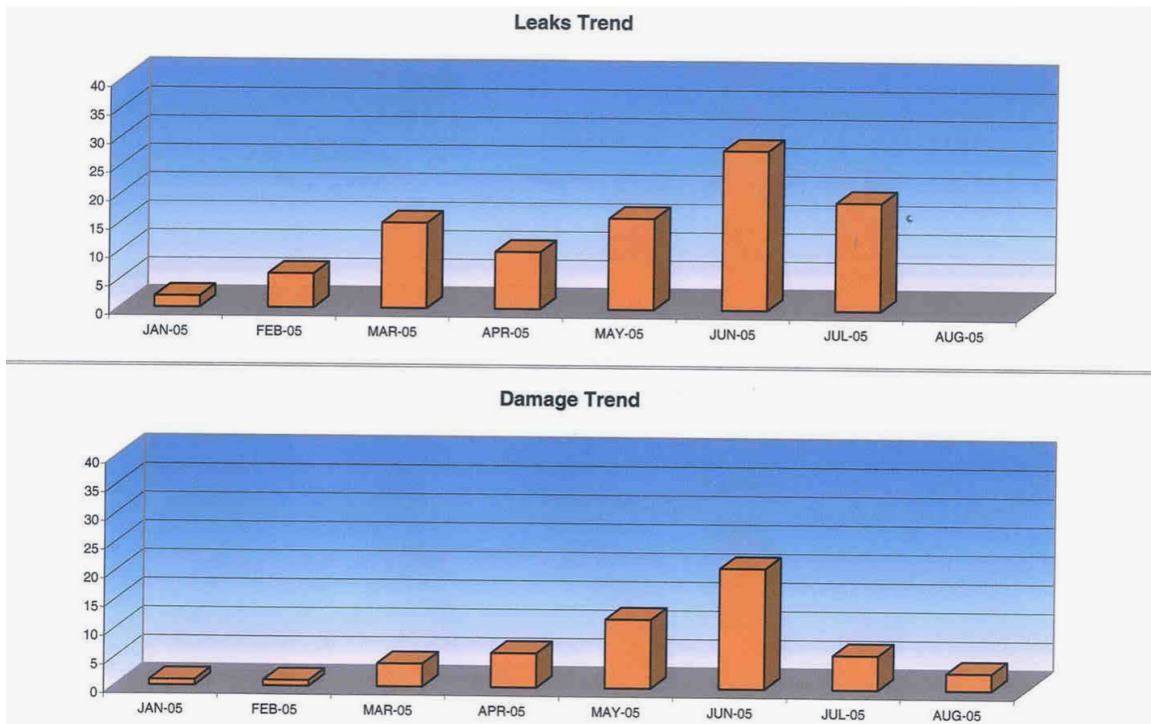**What failure codes should not be used for**

Failure codes should not be a tool used only by reliability engineers. In most instances failure codes should be assigned to work requests by operations staff and maintenance technicians.

Failure codes should not be used as a root cause analysis tool.

Failure codes are not intended to be the only source of failure data. Many times additional information relating to failures will be included within the Maximo work request "details of work carried out" and other failure reports, depending on the complexity and nature of failure.

EXAMPLES:

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Leaks Trend

Damage Trend

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